

09/884,410

01AN061

REMARKS

Claims 1-11 and 13-33 are currently pending in the subject application and are presently under consideration. Claims 1, 10, 13, 26, 27, 28, 30, and 31 have been amended herein. Claim 29 has been cancelled. A complete listing of the claims in revised amendment format showing changes made can be found at pages 2-8. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-5 and 9 Under 35 U.S.C. §103(a)

Claims 1-5 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hommes, *et al.* (U.S. 4,675,582) in view of Barthel, *et al.* (5,590,278). It is submitted that this rejection be withdrawn for at least the following reasons.

The cited references fail to teach or suggest all the claim limitations. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the *prior art reference* (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. See *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Hommes, *et al.* fails to disclose, teach, or suggest a path module being *end-to-end connectable* to at least one other path module to define a path, each module in the path having a different address..., as recited by claim 1. Rather, Hommes, *et al.* defines a single elongated primary path, which can be segmented internally into zones so as to enable movement of a secondary and attached vehicle along the path. The Examiner's cited definition of a module meaning "any series of standardized units," is too broad in light of the claim language. Claim 1, recites a module which is *end-to-end connectable* to other modules to form a path. The zone controllers and zone drivers of Hommes, *et al.*, are not connectable or unconnectable amongst themselves. On the contrary, the zone controllers and drivers are simply a part of a single undetachable primary, as is conventionally done in the art of linear motor design. The mere fact that Hommes, *et al.*, can employ a plurality of zone controllers and drivers that are independent of

09/884,410

01AN061

one another would not have taught or suggested to one skilled in the art at the time the invention was made the physical modularity of end-to-end connectivity as is claimed. Barthel, *et al.* fails to make up for the deficiencies of Hommes, *et al.* Barthel, *et al.* simply discloses a methodology associated with conventional programmable logic devices (PLCs). While it is true that Barthel, *et al.* discloses the use of "modules," the reference does not teach or suggest modules that are end-to-end connectable to form a path for a linear motor. Accordingly, a prima facie case has not been established with respect to independent claim 1.

Furthermore, neither Hommes, *et al.* nor Barthel, *et al.* alone or in combination disclose, teach, or suggest a sensor operative to sense a condition of a path module and provide the signal indicative of the sensed condition to the module controller, as recited by claim 9. Barthel, *et al.* does disclose a controller accessing sensors, however it does not teach a sensor operative to sense a condition of a path module. Hence, claim 9 provides an additional basis for patentability over and above that of claim 1 from which it depends.

In light of the aforementioned, claim 1 (as well as claims 2-5 and 9 depending therefrom) is not obvious in view of Hommes, *et al.* and Barthel, *et al.* Accordingly this rejection should be withdrawn.

II. Rejection of Claims 6-8 Under 35 U.S.C. § 103(a)

Claims 6-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hommes, *et al.* (U.S. 4,675,582) in view of Barthel, *et al.* (U.S. 5,590,278) and further in view of Izawa, *et al.* (U.S. 6,075,297). Withdrawal of this rejection is requested for at least the following reason.

Hommes, *et al.*, Barthel, *et al.* and Izawa, *et al.* are not properly combinable references.

Obviousness can only be established where there is some teaching or suggestion for the purposed modification or combination. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). *Moreover, a reference that teaches away from the art is a per se demonstration of a lack of prima facie obviousness.* *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) (emphasis added). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d

09/884,410

01AN061

1130 (Fed. Cir. 1994); *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*,
192 F.3d 1353, 52 USPQ2d 1294 (Fed. Cir. 1999).

Hommes, *et al.* and Izawa, *et al.* are not properly combinable at least because Hommes, *et al.* teaches away from Izawa, *et al.* as well as claims 6-8. Hommes, *et al.* expressly teaches away from using feedback circuitry because, *inter alia*, it requires too much time to ensure frequency and phase are properly mapped when a rotor is "handed-off" between zones. (See col. 2, lines 5-26, col 3, lines 10-25, col. 6, lines 41-54). Claims 6-8 and Izawa, *et al.* are both concerned with utilizing encoder sensors to provide information indicative of changes in position of a stage relative to a path, in other words feedback data. Accordingly, claims 6-8 are not obvious in view of the cited references, and this rejection should be withdrawn.

III. Rejection of Claims 10, 11, 13-20 and 26-28 Under 35 U.S.C. § 103(a)

Claims 10, 11, 13-20, and 26-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takei (U.S. 5,831,352) in view of Hommes, *et al.* (U.S. 4,675,582) and further in view of Barthel, *et al.* (U.S. 5,590,278). Withdrawal of this rejection is requested for at least the following reasons.

Takei, Hommes, *et al.* and Barthel, *et al.* alone or in combination fail to disclose, teach, or suggest each and every claim limitation. Claims 10 and 26 recite a module which is *end-to-end connectable* to other modules to form a path. Claims 13 and 27 recite each of a plurality of path modules being connected to at least one adjacent path module to define a path. The zone controllers and zone drivers of Hommes, *et al.*, are not connectable or unconnectable amongst themselves. In contrast, the zone controllers and drivers are simply a part of a single undetachable primary, as is conventionally done in the art of linear motor design. The mere fact that Hommes, *et al.*, can employ a plurality of zone controllers and drivers that are independent of one another would not have taught or suggested to one skilled in the art at the time the invention was made the physical modularity of end-to-end connectivity or connectivity of adjacent modules to form a path as recited by claims 10, 13, 26, and 27. Both Takei and Barthel, *et al.* fail to make up for this deficiency. Accordingly, claims 10, 13, 26, and 27 (as well as claims 11-12, 14-25 depending thereon) are allowable in view of the cited references.

Claim 28 has been amended to include the subject matter of claim 29 (cancelled herein). Takei, Hommes, *et al.* and Barthel, *et al.* alone or in combination fail to disclose, teach, or

09/884,410

01AN061

suggest receiving encoder data at the motor controller indicative of at least one movement and position of the stage..., as recited by amended claim 28. Accordingly, claim 28 is allowable in view of the cited references.

In view of the aforementioned, 10, 13, 26-28 (as well as claims 11-12, 14-25, 30-33 depending directly or indirectly therefrom) are believed to be allowable. Hence, withdrawal of this rejection is requested.

IV. Rejection of Claims 21, 23-25, 29, 30, 32 and 33 Under 35 U.S.C. § 103(a)

Claims 21, 23-25, 29, 30, 32 and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeji, (U.S. 5,831,352) in view of Hommes, *et al.* (U.S. 4,675,582) in view of Barthel, *et al.* (U.S. 5,590,278), and further in view of Izawa, *et al.* (U.S. 6,075,297). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claims 21 and 23-25 are allowable for at least the same reasons as independent claim 13 from which they depend.

Furthermore, this rejection should be withdrawn with at least because the cited references are not properly combinable—Hommes, *et al.* teaches away from the claimed limitations.

Obviousness can only be established where there is some teaching or suggestion for the purposed modification or combination. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). *Moreover, a reference that teaches away from the art is a per se demonstration of a lack of prima facie obviousness.* *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) (emphasis added). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994); *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 52 USPQ2d 1294 (Fed. Cir. 1999).

In particular, claims 21, 29 (incorporated into claim 28), 30-33 all recite limitations concerning encoder data that is indicative of incremental or absolute changes in position of the stage relative to the path. Encoder data is thus feedback data that can be used by a controller to selectively energize or de-energize armature windings to effectuate movement of a stage. Izawa, *et al.*

09/884,410

01AN061

discloses the use of an encoder to detect the position and speed of a moveable piece and utilize such information for operational control of a linear motor. However, Hommes, *et al.* expressly teaches away from using feedback circuitry because, *inter alia*, it requires too much time to ensure frequency and phase are properly mapped when a rotor is "handed-off" between zones. (See col. 2, lines 5-26, col. 3, lines 10-25 and col. 6, lines 41-54). Hence, Hommes, *et al.* is not properly combinable with Takei, and Izawa, *et al.* Accordingly, the Examiner has failed to establish a prima facie case of obviousness and the rejection of claims 21, 29, and 30-33 should be withdrawn.

V. Rejection of Claims 22 and 31 Under 35 U.S.C §103(a)

Claims 22 and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takei, (U.S. 5,831,352) in view of Hommes, *et al.* (U.S. 4,675,582) in view of Barthel, *et al.* (U.S. 5,590,278), further in view of Izawa, *et al.* (U.S. 6,075,297), and further yet in view of Nakashima (U.S. 5,729,251). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claims 22 and 31 depend from claims 13 and 28 respectively. By virtue of their dependency claims 22 and 31 contain all the limitations of independent claims 13 and 28 respectively. Thus, claims 22 and 31 are allowable for at least the same reasons as claims 13 and 28 described *supra*. Accordingly, this rejection should be withdrawn.

09/884,410

01AN061

CONCLUSION

The present application is believed to be condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

AMIN & TUROCY, LLP



Himanshu S. Amin
Reg. No. 40,894

AMIN & TUROCY, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731